

AMENDMENTS TO THE CLAIMS

Please amend claims 20, 21, 22, 25, 27, and 30-33; cancel claims 13, 14, and 17-19, 26; and add claims 34-43, such that the status of the claims is as follows:

1-19. (Canceled)

20. (Currently Amended) A material removal device ~~for lapping a plurality of sliders, the material removal device~~ comprising:

a plurality of sliders;

a sensor associated with each slider, each sensor configured to ~~sense~~ communicate an electrical response ~~of a magnetoresistive element on the slider to a~~ based on the application of an external magnetic field, the electrical response changing as a function of height of the magnetoresistive element;

a fixture for holding the plurality of sliders;

a lapping mechanism for lapping a surface of the sliders;

a plurality of control drivers, wherein each slider has an associated control driver for individually adjusting each slider relative to the lapping mechanism; and

a control system for controlling lapping of the sliders by controlling the plurality of control drivers based on input received from the sensor associated with each slider.

21. (Currently Amended) The material removal device of claim 20 wherein the ~~electrical response of the magnetoresistive elements is a parameter related to a height of the magnetoresistive element~~ sensor is a first magnetoresistive element.

22. (Currently Amended) The material removal device of claim 20 wherein the sensor ~~associated with each slider comprises the magnetoresistive element of the slider~~ is a linear magnetoresistive sensor.

23. (Previously presented) The material removal device of claim 20 wherein the plurality of sliders comprises a bar of sliders.

24. (Previously presented) The material removal device of claim 23 wherein the control system controls lapping of the bar based on a height profile of the bar obtained from the sensor associated with each slider.

25. (Currently Amended) The material removal device of claim ~~[[20]]~~ 21 wherein the sensor associated with each slider comprises a ~~dummy~~ second magnetoresistive element on each slider.

26. (Canceled)

27. (Currently Amended) A material removal device ~~for lapping a plurality of sliders, the material removal device~~ comprising:

a plurality of sliders;

a lapping mechanism for lapping a surface of each of the sliders;

a control system comprising:

a magnetic field source for applying a magnetic field,

~~sensors on the plurality of sliders~~ at least one sensor on each of the sliders,

wherein the at least one sensor is configured to sense ~~communicate~~ an electrical response based on ~~[[to]]~~ the magnetic field ~~that changes which varies~~ as a function of a height of ~~[[the]]~~ each sensor ~~sensors~~, and

control software for correlating the ~~sensed~~ communicated electrical responses to
a target dimension for each slider; and
a mechanism for individually removing each slider from the lapping mechanism when the
target dimension for ~~[[that]]~~ each slider is attained.

28. (Canceled)

29. (Previously presented) The material removal device of claim 27 wherein the mechanism for individually removing each slider from the lapping mechanism comprises:

a plurality of control drivers associated with each slider; and
a control system for controlling the control drivers during lapping based on the electrical response and the target dimension.

30. (Currently Amended) The material removal device of claim 27 wherein the at least one sensor is ~~sensors comprise~~ a magnetoresistive element ~~on each slider~~.

31. (Currently Amended) The material removal device of claim 28 wherein the ~~sensors comprise dummy~~ at least one sensor is a second magnetoresistive element ~~elements associated with each slider~~.

32. (Currently Amended) A material removal device for lapping a plurality of sliders, the material removal device comprising:

a lapping mechanism for lapping a surface of the sliders;
a ~~dummy~~ first magnetoresistive element and a second magnetoresistive element associated
with each slider, the second magnetoresistive element associated with each slider,

the ~~dummy~~ magnetoresistive element configured to sense a parameter related to a target dimension; and
a mechanism for individually removing each slider from the lapping mechanism when the target dimension for that slider is attained.

33. (Currently Amended) A material removal device for lapping a plurality of sliders, the material removal device comprising:

a fixture for holding the plurality of sliders;
a lapping mechanism for lapping a surface of the sliders;
a first magnetoresistive element on each slider configured to sense magnetic fields during operation;
a ~~dummy~~ second magnetoresistive element on each slider configured to sense a parameter related to a height of a magnetoresistive element on each slider;
a plurality of control drivers, wherein each slider has an associated control driver for individually adjusting each slider relative to the lapping mechanism; and
a control system for controlling lapping of the sliders by controlling the plurality of control drivers based on the sensed parameters.

34. (New) The material removal device of claim 32, wherein the parameter is related to a height of the second magnetoresistive element.

35. (New) The material removal device of claim 32, and further comprising a control system for controlling lapping of the sliders based on input received from the second magnetoresistive element associated with each slider.

36. (New) The material removal device of claim 35, wherein the input received is based on a height profile.
37. (New) The material removal device of claim 35, wherein the plurality of sliders comprises a bar of sliders.
38. (New) The material removal device of claim 37, wherein the control system controls lapping on the bar based on a height profile of the bar obtained from the second magnetoresistive element associated with each slider.
39. (New) The material removal device of claim 33, wherein the plurality of sliders comprises a bar of sliders and wherein the control system controls lapping on the bar based on a height profile of the bar obtained from the second magnetoresistive element associated with each slider.
40. (New) The material removal device of claim 33, wherein the parameter related to a height of a magnetoresistive element on each slider is change in resistance.
41. (New) The material removal device of claim 33, wherein the parameter related to a height of a magnetoresistive element on each slider is amplitude.
42. (New) The material removal device of claim 33, wherein the control system comprises:
a magnetic field source for applying a magnetic field; and
control software for correlating the sensed parameters to a target dimension for each slider.